

THAT WHICH IS CLAIMED:

1. A tissue preserving surgical procedure for the replacement of a hip joint, including the step of making a superior incision for accessing the hip joint.
2. The surgical procedure according to claim 1, wherein said incision is less than about 8 cm long.
3. A minimally invasive surgical procedure for the replacement of a hip joint, including the step of making a superior capsulotomy for accessing the hip joint.
4. A minimally invasive surgical procedure for the replacement of a hip joint, including the step of preserving most or all the short rotators and the posterior capsule.
5. A minimally invasive and tissue preserving surgical procedure for the replacement of a hip joint, including the steps of:
 - making a superiorly positioned incision; and
 - preparing the femoral canal of a patient's natural femur for receipt of a femoral implant, through said superior incision, while the patient's natural femoral head is still within the patient's natural acetabulum.
6. The procedure of claim 5, wherein said step of preparing said femoral canal is carried out without the need to transect any of the patient's abductors.

7. The procedure of claim 5, wherein said step of preparing said femoral canal is carried out without dissecting any of the patient's abductors.
8. The procedure of claim 7, wherein said step of preparing includes leaving the femoral broach in the femur for use as a template.
9. The method of claim 7, further comprising performing a vertical capsulotomy on the hip joint and placing retractors inside the hip joint on both sides of the femoral neck while said femoral head is within the acetabulum.
10. The method of claim 8, further comprising the step of extracting the patient's natural femoral head from the patient's natural acetabulum, after said step of preparing the femoral canal.
11. The procedure of claim 10, wherein said step of extracting includes simultaneously severing the patient's natural femoral head from the patient's femur.
12. The procedure of claim 11, further including the step of preparing the patient's natural acetabulum for receipt of an acetabular shell, through said superiorly positioned incision.

13. The procedure of claim 12, wherein said step of preparing the patient's natural acetabulum is carried out using an angled reamer.
14. The procedure of claim 13, wherein said angled reamer is hand-held.
15. The procedure of 14, further comprising the step of inserting an acetabular shell and liner in said prepared natural acetabulum through said superior incision.
16. The procedure of claim 15, wherein said femoral implant is inserted in said femoral canal through said superior incision after the insertion of said acetabular shell and liner.
17. The procedure of claim 16, wherein a femoral ball implant is implanted in the patient after the insertion of the femoral implant and the acetabular shell and liner.
18. A tissue preserving hip surgical procedure for the replacement of a hip joint, including the steps of:
 - preserving the short rotators and posterior capsule; and
 - preserving the abductors.
19. The procedure of claim 18, wherein said procedure is carried out through a superior incision.